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RESULTS OF THE ARCHBOLD EXPEDITIONS. NO. 38

MOLOSSID BATS OF THE ARCHBOLD COLLECTIONS

By G. H. H. Tate

The collections are singularly poor in bats of the family Molossidae, so much so that without borrowing extensively from other museums no attempt at a general résumé can be made. Of the half dozen Indo-Australian genera and thirty-odd named forms we can report on only three genera and four species.

CHEIROMELES Horsfield

Cheiromeles Horsfield, 1824, Zool. Res. Java, VIII.

Genotype.—*C. torquatus* Horsfield from Java.

Material.—Photographs of specimen of *caudatus* (Leyden, skull "c"), and of the type of *jacobsoni*, B.M. 23.10.7.9 from Simalur Island; A.M.N.H. 103922 from northeast Borneo (♀).

Temminck[1] renamed Horsfield's identical specimen *Dysopes cheiropus*, and somewhat later,[2] returning to the name *caudatus*, made additional notes based upon several specimens obtained in Bantam, Java, by Kuhl, van Hassalt and Müller.

Other forms have since been named: *C. parvidens* Miller and Hollister from Middle Celebes, and *jacobsoni* Thomas from Lugu, Simalur Island, N. W. Sumatra. The genus is recorded also from Indo-China (Wagner, 1855) and Philippines (Taylor, 1934; Lawrence, 1939). Miss Lawrence believed the Philippine race more like *parvidens* than *torquatus*.

CHAEREPHON Dobson

Chaerephon Dobson, 1874, J. Asiatic Soc. Bengal, XLIII, pt. 2, p. 144; 1878, Cat. Chiroptera Brit. Mus., pp. 431–432.

Genotype.—*Molossus johorensis* Dobson.

Chaerephon was originally distinguished from *Nyctinomus* as a subgenus solely by the deep band of skin uniting the ears and the resultant pocket formed behind it. No second specimen of *johorensis* was found until nearly thirty years later, when Andersen[3] described a male in alcohol from N. W. Sumatra. He compared it with "*plicatus*" from Java, B.M. 46.4.21.21, finding the "upper incisors, upper and lower canines, upper premolars, and anterior lower premolar . . . in *johorensis* comparatively shorter or smaller. . ." Further details were given of the complex mechanism of the united ears and the cavity behind them. The premaxillae were described as complete, the incisive foramina small and rounded.

This feature of the premaxillae was used by Miller[4] in his key to Molossid genera to distinguish *Chaerephon* from *Nyctinomus* (= *Tadarida*?), but the presence or absence of the palatal branch of the premaxillae appears not to be an absolute character but to vary with different species, particularly the African members. Miller added, "The character on which it [*Chaerephon*] is now based is wholly unrelated to that which Dobson originally assigned to the group."

Thomas[5] suggested yet another basis for classification, namely, the degree of reduction of the upper third molar, with the premaxillae and basi-occipital pits as secondary characters. *Chaerephon* under his arrangement included only species with m^5 relatively complete. Species included were *johorensis* and *plicatus*.

[1] 1827, Monographies de Mammalogie, I, pp. 218–223.

[2] 1838, *op. cit.*, II, pp. 345–351.

[3] 1907, Ann. Mus. Civico, Stor. Nat. Genoa, (3) III, pp. 39–42.

[4] 1907, "Families and genera of bats," p. 244.

[5] 1913, J. Bombay Nat. Hist. Soc., XXII, pp. 89–91.

Chaerephon plicatus tenuis (Horsfield)

Nyctinomus tenuis HORSFIELD, 1822, Zool. Res. Java, V.

TYPE REGION.—Java.

MATERIAL.—Photograph of type skull, B.M. 79.11.21.137, braincase badly broken. A series of 15 specimens from Cheribon, N. coast of Java, and 19 from Soka, Bali.

The type skull was extracted from the skin and cleaned in 1937. It has a low sagittal crest, small lacrimal processes. Upper incisors simple, nearly 1/2 height of c; p^4 2/3 height of c; p^2, which is included in toothrow, quite small, its crown 1/3 height of p^4; p_4 3/4 height of lower c; p_2 2/3 height of p_4.

Ears just meeting on frons.

Measurements of type of *tenuis* Horsfield: forearm, 42.5 mm.; least intertemporal width, 3.5; breadth braincase, 8.2; breadth meso-pterygoid fossa, 2.3; width inside m^{1-1}, 2.8; c–m^3, 6.35; m^{1-3}, 4.1; crown of m^1, 1.65 × 1.9; of m^2, 1.5 × 1.9; of m^3, 1.0 × 1.7.

It remains an assumption that *tenuis* Horsfield is a subspecies of *plicatus* Buchanan-Hamilton. The illustrations published by those authors lend some support to that assumption. But the type skull of the latter, presumed to exist in the India Museum (Dobson, 1879, p. 425, had seen it), should be studied.

Dysopes tenuis Temminck, contrary to his belief, was not equal to *tenuis* Horsfield. It was a decidedly different species, as shown by the skull, of which I have a photograph. Fortunately, Temminck in a footnote[1] provided a specific name, *labiatus*, for his "grand quantité d'individus." In 1838, Temminck[2] admitted the presence of a second larger species of Molossid in Java, to which he applied Horsfield's name *dilatatus*. The forearm was about 47 mm.

The following are notes taken from a co-type of *labiatus*, specimen "d," adult ♀, of Jentink[3] catalogue, whose skull was extracted and cleaned for me by Dr. Junge in 1937. Jentink remarked (*loc. cit.*) "un des types des *Dysopes tenuis* Temminck. Java. Des collections des M. M. Kuhl et van Hassalt."

I quote notes made in Leyden: "A comparatively large species, with ears broad, convolute, meeting over *frons*. Skull well ossified; lower part of braincase missing; upper incisors close together, 1 mm. from c–c; upper premolars ONE EACH SIDE (perhaps related to *Mops* and *Philippinopterus*); lower incisors two each side, bifid; lower premolars two each side, p_2 slightly lower than p_4."

Measurements of co-type "d" of *labiatus:* forearm, 48 mm., total length of skull, 21.9; zygomatic width, 13.4; least intertemporal width, 4.6; breadth of braincase, 10.6; breadth of mesopterygoid fossa, 3.2; c–m^3, 7.7; m^{1-3}, 5.05; crown of m^1, 2.15 × 2.15; of m^2, 2.25 × 2.25; of m^3, 1.3 × 1.95.

Sody has recently described a race *adustus* (type, Sody, Pang. 70, of which I have a photograph) from Java, and he has revived the hopelessly unidentifiable name *dilatatus* Horsfield.[4] Actually his large race (with forearm, "43–50") which he calls *dilatatus* may equal *labiatus*. His small race (forearm, "40–45") equals true *tenuis*. To his mid-sized race (forearm, 44–47) he had applied the name *adustus*.

Chaerophon plicatus colonicus Thomas

Nyctinomus plicatus colonicus THOMAS, 1906, Proc. Zool. Soc. London, II, p. 537.

TYPE LOCALITY.—Alexandria, North Australia.

MATERIAL.—Photograph of the type skull, B.M. 6.3.9.16; a series of 7 specimens from Malbon, Queensland, and an individual without skull from Pentland.

Thomas published most of the standard measurements of the type specimen, to which I now add a few supplementary dimensions of the teeth: m^{1-3}, 4.9; crown of m^1, 1.85 × 2.3; of m^2, 1.8 × 2.4; of m^3, 1.2 × 2.2.

The palatal branches of the premaxillary bones are complete.

[1] 1827, Monographie de Mammalogie, I, p. 228.
[2] *Op. cit.*, II, pp. 352–354.
[3] 1888, Mus. d'Hist. Nat. des Pays-Bas, XII, p. 202
[4] 1936, Natuur. Tijdschr. Ned. Ind., XCVI, pp. 50–51.

Mops sarasinorum (Meyer)

Nyctinomus sarasinorum MEYER, 1899, Abhandl. u. Berichte K. Zool. Anthrop.-Ethn. Mus., Dresden, VII, No. 7, p. 16.

TYPE LOCALITY.—Batulappa, north of Tempe Lake, S. W. Central Celebes.

MATERIAL.—20 specimens from the lowlands of Peleng Island, Celebes.

The animals of this series agree in every way with Meyer's description, which was made from a single female. In young animals the dorsal color is very much darker—near Fuscous Black[1]—and the chestnut-brown is gradually assumed at maturity. A number of individuals are in the transitional stage, a blackish chestnut. The nude condition of the crown of the head is already developed, even in quite young specimens. The dorsal hairs of the neck just anterior to the scapulae are much thinned.

Meyer's description of the spacing of the upper incisors, the absence of the small upper premolar, and reduction of p_2—all agree well with the condition found in our series. It appears from the wording of his account that the skull had not been cleaned when Meyer described *sarasinorum*.

In our specimens, e.g., A.M.N.H. 109064, ♀, paired incisive foramina are clearly defined, the intermolar spaces are ample, and m^3 is very much reduced. The anteorbital processes are prominent. Slight sphenoidal depressions are observable. In the mandible, p_2 is considerably smaller than p_4 in all of its dimensions.

Measurements of A.M.N.H. 109064: forearm, 40 mm.; occipito-canine length, 17.8; zygomatic width, 12.0; mastoid width, 11.0; least intertemporal width, 4.6; c–m^3, 7.2.

The obsolete p^2 and reduced p_2, coupled with the complexity of the ears, indicate the relationship of *sarasinorum* to *Mops* and to *Philippinopterus*.[3] *Sarasinorum* is more heavily built than *P. lanei* as shown by their respective toothrows (c–m^3, 7.2: 5.2–5.7 mm.). Neither one, because of the structure of the ears, can be referred to *Mormopterus* Peters.

I have not seen an example of *Philippinopterus*. But Taylor's description, which does not state the character of m^3, appears otherwise to agree closely with the definition of *Mops* offered by Thomas.[4] Similar curtailment of the W-pattern of m^3 can be observed in several American genera. The classification of these genera is difficult; not only the genus *Mops* but the interrelationships of the Molossidae as a whole require further study.

REMARKS ON *MORMOPTERUS* PETERS

Mormopterus PETERS, 1865, Monatsber. Akad. Wiss. Berlin, p. 574.

GENOTYPE.—*Nyctinomus jugularis* Peters, from Madagascar.

Mormopterus, monographed by Peters[2] in 1881, was held to include three Mascarene species, *jugularis*, *acetabulosus*, *setiger*, and two New Guinea–Australian species, *beccarii* from Amboina and *norfolcensis* from Norfolk Island and Eastern Australia. *Astrolabiensis* Meyer appears to be related to *Mormopterus*. Later Andersen added *doriae* from N. W. Sumatra.

All of these species are united by possessing relatively thin, broad, un-united, unspecialized ears, scarcely wrinkled lips, unreduced m^3. In these respects they are less specialized than *Chaerephon*. But they show also specializations lacking in the last-named genus: the open premaxillae, presence of a gular sac, and obsolescence of p^2 (except *norfolcensis*[5] and *beccarii*).

An American branch of the genus containing the species *kalinowskii* (Thomas), *minutus* (Miller), *peruanus* Allen, was recognized, with i_3 absent in all three species and p^2 present in *peruanus*.

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[1] Ridgway, 1912, "Color Standards and Color Nomenclature."

[2] 1881, Monatsber. Akad. Wiss. Berlin, pp. 482–485, plate.

[3] Taylor, 1934, "Philippine Land Mammals," pp. 314–320.

[4] 1913, J. Bombay Nat. Hist. Soc., XXII, pp. 89–91.

[5] Third lower incisor apparently retained in *norfolcensis*, see Peters' plate (*loc. cit.*).

Recently Iredale and Troughton[1] have proposed the generic term *Micronomus* for *Molossus norfolcensis* Gray. Under the findings of the International Congress[2] this name, as well as others proposed in the same work by the same authors, is invalid.

Apparently the only Old World representatives of the genus *Mormopterus* present in American museums are specimens of *norfolcensis*, at U. S. Nat. Mus., Washington, D. C., and Mus. Comp. Zoöl., Cambridge, Mass.

[1] 1934, Mem. Austral. Mus., VI, p. 100.
[2] 1939, X[e] Congrès Int. Zool., Budapest, p. 1589.